

Applicant: Takao Tsuruoka
Application No.: 10/646,637

REMARKS/ARGUMENTS

The present application contains claims 1-27. Claims 4 and 16 have been amended. No new matter has been added.

Claims 8-10, 14, 20, 21, 22 and 26 remain withdrawn as being directed to a non-elected invention.

Drawings/Priority Claim

It is noted that the drawings have been accepted and that the convention priority claim has been acknowledged.

Specification

The objection to the specification is respectfully traversed. Applicant submitted a Preliminary Amendment dated August 22, 2003, together with the filing of the application. A copy of the return postcard, which is date-stamped "08/22/03" accompanies this Amendment as Exhibit "A." The return postcard indicates that a "Marked-Up Specification" and a "Substitute Specification" were filed with the new application. As a courtesy, a marked-up specification accompanies this Amendment showing the corrections and a clean specification is also submitted herewith. These two documents are copies of the documents submitted with the new application on August 22, 2003. Please enter these documents and make them of record in the application. It is submitted that no new matter has been introduced.

Restriction/Election

Making reference to the restriction requirement of the Prior Action, claims 1-7, 11-13, 15-19, 23-25 and 27 have been examined on the merits.

Allowable Subject Matter

The Examiner is thanked for indicating that claims 6, 11-13, 18 and 23-25 will be allowed if rewritten to include the limitations of their main claim and any intervening claims.

Claim Rejections - 35 U.S.C. §101

It is noted that the rejection of claim 27 based on 35 U.S.C. §101 has been withdrawn.

Claim Rejections - 35 U.S.C. §103

It is noted that the rejection of claims 1, 2, 5-6, 17, 18 and 27 under 35 U.S.C. §103(a) as obvious over Curtis et al. (U.S. Patent No. 5,661,521) (hereinafter, "Curtis et al.") in view of Kyoji Tamura (U.S. Patent No. 5,999,215) (hereinafter, "Tamura"), has been withdrawn.

The rejection of claims 1-4, and 15, 16 and 27 under 35 U.S.C. §102(b) as anticipated by Mancuso et al. (U.S. Patent No. 6,256,414) (hereinafter, "Mancuso et al.") is respectfully traversed.

The Examiner, referring to claims 1 and 27, states that Mancuso et al. disclose, as shown in Figs. 1 and 2, an image pickup system comprising noise estimator 245 for estimating an amount of noise in a digitized signal from image pickup element 120; a shooting condition estimator 230, 235 and 240 for estimating a shooting condition when an image based on the signal is acquired, the Examiner making reference to column 4, lines 11-31; a correction unit 250 for correcting the amount of noise estimated by the noise estimator 245 based on the shooting condition estimated by the shooting condition estimator, the Examiner making reference to column 4, lines 32-53; and noise reducing unit 255 for reducing the noise in the signal based on the amount of noise corrected by the correction unit, the

Examiner making reference to column 4, lines 54-58.

Although Mancuso et al. admittedly teaches a noise estimator 245, it is submitted that the apparatus which the Examiner alleges is the shooting condition estimator is clearly different from that disclosed in the present application. The exposure correction circuit 235 is described in column 4, lines 11-31 as a calculation unit 230 which produces a histogram of the frequency distribution of the image, an exposure correction unit 235 and white balancing unit 240.

To the contrary, the present application teaches a shooting situation estimating means which estimates a shooting situation such as "scenery shooting scene," "portrait shooting scene," "close up shooting scene" or the like totally independent of the image obtained. This description is set forth in paragraphs [0066-0076] in the specification of the present application. It should further be noted that the present application teaches a **separate** and **independent** white balance circuit 12 as shown in Fig. 1 and further as described in the specification at paragraph [0048], page 8 of the specification. The text at column 4, lines 11-21 of Mancuso et al. recites that the exposure problems which are corrected are limited to back lighting or excessive front lighting as well as correcting the color shift of the light towards red or towards blue dependent on color temperature of the light source, as recited in column 4, lines 24-27 of Mancuso et al.

Thus, calculation unit 230, automatic exposure correction unit 235 and white balancing unit 240 of Mancuso et al. are **directly responsive to the image** signal and correct the image signal based on the histogram or the color temperature of the light source and further have a direct effect upon the image. Note, Fig. 2 of Mancuso et al. which the output of one of the CCD 120 and the decompression unit 130 is **directly inputted** to units 230 and 235 and signal 120 (or 130) is inputted to the white balance circuit 240 after undergoing exposure correction at circuit 235.

To the contrary, the present invention provides a shooting situation

estimation unit which is not in any way affected by the image provided from the CCD 120 or the decompression unit 130. Note the shooting conditions estimating unit 16 shown in Fig. 1 as well as Fig. 3.

It is therefore submitted that Mancuso et al. neither disclose nor suggest a "shooting condition estimator for estimating a shooting condition when an image based on said signal (the digitized signal from an image pickup element) is acquired.

In addition, Mancuso et al. neither teach nor remotely disclose a correction unit correcting the amount of noise estimated by the noise estimator on the basis of the shooting situation estimated by the shooting situation estimator, recited in claim 1.

The noise reduction unit 250 of Mancuso et al. functions to dynamically reduce the effects of noise introduced by the light sensor depending on the noise level estimated by the noise level estimation unit 245 and based on the spatial characteristic of the image, the amount of noise of the light sensor being evenly reduced, which is clearly different from the present invention wherein the noise correction unit 18, shown in Figs. 1 and 3 of the present application, estimates the amount of noise based on the estimating unit 16 which, as recited above, is independent of the digital signal of the image provided by the CDS 7, shown in Fig. 1 of the present application.

It is submitted that unit 255 shown in Fig. 2 of Mancuso et al., identified as a "noise reducing unit for reducing the noise in the signal based on the amount of noise corrected by the correction unit," is **not** a noise reducing unit, but is a color-tone correction unit which corrects alterations of one or more color categories without altering the other colors of the image, examples of the color-tone correction being improvement of the quality of representation of skin color tone in a portrait, the sky and the grass in a landscape. To the contrary, the noise reducing unit

recited in claim 1 reduces noise in the signal based on the amount of noise corrected by the correction unit 16. See the estimating unit 16, correction unit 18 and noise reducing unit 19 for at least one of Figs. 1 and 3.

Thus, for all of the above reasons, it is submitted that claim 1 patentably distinguishes over Mancuso et al. As noted by the Examiner, claim 27, recites limitation substantially the same as those are recited in claim 1 and it is submitted that claim 27 patentably distinguishes over Mancuso et al. for the same reasons set forth above regarding claim 1.

Claims 2-4, 15 and 16 all depend from claim 1 and carry all of its limitations and hence are deemed to patentably distinguish over Mancuso et al. for the same reasons as are set forth above regarding claim 1.

Claims 7 and 19 have been rejected under 35 U.S.C. §103(a) as unpatentable over Mancuso et al. This rejection is respectfully traversed.

It should be noted that claims 7 and 19 depend from claim 1 or from a claim which depends from claim 1 and hence are deemed to patentably distinguish over Mancuso et al. for the same reasons set forth above. Regarding claim 7, the limitations set forth therein recite the shooting condition estimator in greater detail and, since the shooting condition estimator recited in claim 1 clearly distinguishes over Mancuso et al., it is submitted that the more detailed description of claims 7 and 19 likewise distinguishes thereover. In addition, even assuming for the sake of argument, the concepts and advantages of determining whether the shooting condition is of night use shooting are well known and expected in the art, the novel features of the shooting condition estimator set forth above are lacking in Mancuso et al. The combination of Official Notice with Mancuso et al. lacks the features lacking in Mancuso et al. regarding the independent nature of the shooting condition estimator recited in claim 1.

Claim 19 recites limitations substantially similar to those recited in claim 7

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and it is submitted that claim 19 patentably distinguishes over Mancuso et al. taken with Official Notice.

The rejection to claims 4 and 16 is duly noted. Responsive thereto, Applicant has amended claims 4 and 16 to omit reference to a "regional estimator" found in the non-elected species of Figures 11A-11B, leaving only an "overall estimator" found in elected Figure 3.

Regarding allowable claims 6, 11-13, 18 and 23-25, it is submitted that the need for amending these claims is not necessary in view of the fact that their base claims, as well as any intervening claims, are submitted to patentably distinguish over the cited art of record.

On a further note, a Japanese patent application (Application No. 2002-242400, Publication No. 2004-88149), corresponding to and having the same claims as the present U.S. Patent Application No. 10/646,637, was allowed for novelty and non-obviousness and granted a patent (Japanese Patent No. 3,762,725).

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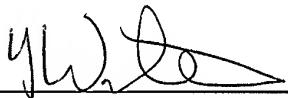
Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicant respectfully submits that the present application, including claims 1-7, 11-13, 15-19, 23-25 and 27, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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Enclosures

EXHIBIT "A"

Express Mail Label No. EV318163135US ✓
Atty. Docket # IPO-P1755
Mailed prepaid on: August 22, 2003
by [] First Class or [X] Express Mail to:
Mail Stop Patent Application, Commissioner for
Patents, P.O. Box 1450, Alexandria, VA 22313-
1450

IN RE PATENT APPLICATION OF

Inventor: Takao Tsuruoka
Appln. No.: Not Yet Known
Filed: Not Yet Known
Title: IMAGE PICKUP SYSTEM

Kindly acknowledge receipt of the following items with respect to the
above-identified matter by placing your date stamp hereon and
mailing this self addressed and posted card:

Utility Patent Application Transmittal (1 pg.); 22389 U.S. PTO
Fee Transmittal (1 pg.); 10/646637
Form PTO-2038 (1 pg.);
Patent Application (64 pgs.);
12 sheets of Drawings, in triplicate;
Fully executed Declaration for Patent Application (3 pgs.);
Application Data Sheet (2 pgs.);
Recordation Form Cover Sheet (1 pg.) and Assignment (2 pgs.);
Information Disclosure Statement (2 pgs.) with
Form PTO-1449 (1 pg.) and copies of references cited thereon;
Preliminary Amendment (15 pgs.);
1 Sheet of Marked Up Drawing;
1 Sheet Proposed Drawing (in triplicate);
Marked-Up Specification (31 pgs.);
Substitute Specification (43 pgs.) and
Certified Copy of Japanese Priority Appln. No. 2001-12400.
08/22/03

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